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Realizing
SBIR-STTR value

Prepared testimony on the matter of:

# Small Business Innovation and Research: What is the Optimal Role of Venture Capital?

Hearings before the

U.S. House of Representatives
Committee on Science
Environment, Technology and Standards Subcommittee

Rayburn House Office Building Room 2318
June 28, 2005

Witness:
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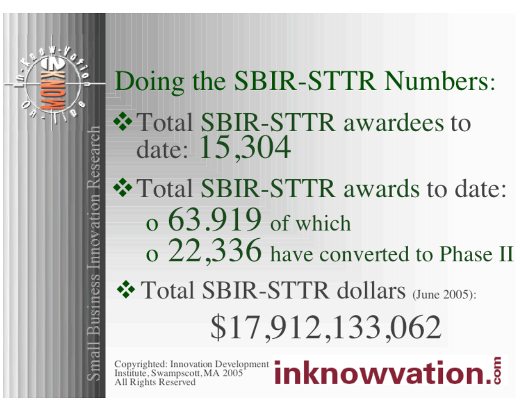
First let me say that I appreciate the opportunity to offer my perspectives on this complex but important issue of venture capital ownership in firms participant in the federal SBIR program. The often rancorous 'discussion' - now almost two years in duration –surrounding this issue has been distracting and highly divisive across the SBIR community and outside, almost to the point of being destructive. Certainly it is the case that the effort and resources expended could have been far more productively utilized on issues of greater consequence to the future of SBIR.

Of major concern to me has been that this entire effort seems to have proceeded with remarkably little reference to any systematically compiled, topic-relevant information about the ***actual*** form and extent of VC-funded companies activity in SBIR. Small sample surveys of firms which have been encouraged to believe that they will be adversely affected; forums in which participants speak but do not listen; and anecdotal accountings in the media by carefully selected firms of anticipated adverse impact on them of a decision one way or the other has generated a great deal of heat .. but has done almost nothing to persuade either side of the validity of the other's position. The result is almost total impasse with efforts now to force resolution legislatively in a manner that will probably will not only not solve the underlying problem, but could well have ramifications with potential seriously to damage the integrity of SBIR program longer term.

I do not claim in any way here to have "The Answer". However, I am probably better placed than most to provide useful and relevant large volume, analytical data -- I am sure that being the reason I was invited here today. Before proceeding, I should note that in the process of setting out my observations and conclusions I will almost certainly upset many of the parties on both sides of this issue. Those who are firm in the rightness of their cause will likely remain unconvinced, if they are listening at all. However, the far larger number who understand the compelling need to find appropriate resolution to this divisive issue and to get back to business will hopefully be open to some shifting in the focus of discussion that my analysis may suggest.

Good afternoon: My name is **Ann Eskesen**. I am the founding president of the Innovation Development Institute, Swampscott, MA. I was among that small group - others are here today - involved in development and passage of the enabling legislation for this important small-business program in 1980-82. To a greater or lesser extent, I have been involved in the three reauthorizations since, and in most of the SBIR-STTR crises, controversies and confrontations through the years. At the time of initial development, the concept of SBIR was highly controversial and, for some, to an extent has remained so. Following passage of the enabling legislation it was my decision, therefore, to stay involved to monitor program implementation[1].




To function in that capacity, from the very earliest days I have systematically **kept the SBIR record**.

[1] I should say that it was never my intent that SBIR advocacy would become my primary professional activity these many years - advocates generally don't get paid and we have been no exception.

This process began simply by tracking in a single database the detail of **every SBIR award** – by funding agency, recipient small firm, Principal Investigator, relevant dates, project title, Technical Abstract, dollar amount(s), Phase II conversion etc. Through the years that **awards monitoring process** has continued and our SBIR-STTR data is complete and accurate to announced awards of recent weeks.

FYI: as of Friday, June 24, 2005, a total of 63,919 Phase I awards had been made of which, to date, 22,366 have converted to Phase II. Involving a population of 15,304 firms over the life of the program, this factors to a total dollar distribution as – again of last week - of $17,912,133,062.

These numbers will certainly be higher this week

Over the last several years we have extended our efforts also carefully to track various aspects of the firms which have been/are SBIR-involved. These data now include:

- **Basic business information** - current name(s), location and contact information[2]; founding date, current employment, revenue stream etc; and a Business Identifier and Profile.
- Various **business activity data** to include:
  - **Issued patents** (domestic and international) along with, usefully, a **full patent citation index**. Almost **47,000 U.S. patents** have to date issued to SBIR involved firms.
  - All **Merger and Acquisition** activity - so far **619 transactions**
  - **Public offerings**, daily **stock price** and other relevant **trading information** on those **550 firms** and aspects of their **various SEC filings**.
  - Various **Collaborative activities** - in and out licensing, subcontracting, joint ventures etc.

To allow us better to identify and track their technical competencies, other areas of data compilation which have more recently been added and are in various stages of development include:

- Several sophisticated business and technical **classification systems**
- Compilation of a Full **Capability Statements** -- with a primary emphasis on the 4800-5000 firms doing what we would consider **leading-edge** work;
- **Biographies** on all Principal Investigators and company principals;
- **Professional papers** and **referencing articles**;
- Along with a systematic listing of all **Recognition Awards**.

Using a sophisticated relational database system, all these elements are indexed and fully integrated. Elegant, proprietary tools have been developed enabling some extremely interesting and often quite complex analyses across the entirety of the SBIR program[3] or within any selected subset.

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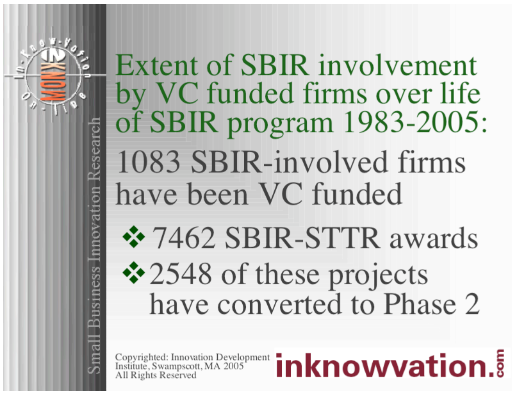
[2] Simply to maintain the currency of names and addresses is a very demanding task in itself since this is a highly mobile group which seemed to have a great propensity for changing their name(s) as well as their location

[3] It is worth noting that in many important respects SBIR reflects - is a mirror for - important changes in the larger economic environment: in effect, a living lab that could function as a powerful and exciting analytical tool in its own right. To argue for SBIR as a causative agent is probably not appropriate. Certainly, however, the evidence is strong that

Perhaps most useful and important to today's topic, we also compile on a systematic basis,

- the extent and form of **Venture Capital[4] activity** involving SBIR firms to include a detailed tracking of outcomes - commonly referred to as liquidity events.




It is useful to note that our data in this category for more recent years (2001-present) is compiled such that, to some extent, we are able to set the SBIR VC experience in the context of all venture capital activity in United States. It is primarily from this part of our databases that I have drawn for the analysis undertaken for discussion here.

Before proceeding to my analysis proper, let me first speak briefly to where SBIR came from: what, in my judgment, was both the basis for advocacy for SBIR and the Congressional intent.

## Why did Congress establish SBIR?

At the time of passage of the SBIR enabling legislation, this country was in the throes of recession. Unemployment rates were high, quality (read: high-paying) jobs were moving offshore, the cost and availability of capital were issues (particularly early-stage, high-risk) and many of our major industries were under competitive strain. It was broadly understood then, as it is now, that economic viability and growth regionally and nationally is anchored primarily in **effective technology development** – using what we know. There was compelling evidence from a range of studies that small firms were a prolific and cost-effective source of that technological innovation. Add in the fact that small firms had been recently shown to be the economy's **primary job creator** and the context for passage of the SBIR enabling legislation was set.

This intentionally stresses the fact that passage of SBIR was fundamentally grounded in the notion of the program as a **technological, business and economic development resource**. The proposed investment – as noted above now 20 years later approaching $19 billion - was not because these firms were small or deserving. It was because this population included some of the nation's best and brightest minds – persons at the time, and who had over an extended time period previously, been largely excluded from access to federal R&D support. Providing them that access, it was argued, was key to improving their **potential for important economic impact**.

The evidence that SBIR has already delivered in major ways to that early promise is compelling. Though this <u>is</u> probably the place, this is not the <u>time</u> to present that evidence. However, one factor clearly bears mentioning. Beginning in the late eighties/ early nineties, the structure of U.S.

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effective SBIR participation is positioning a important percentage of SBIR-involved firms to take business advantage of new opportunities that those changes are creating with major positive impact on the economy overall.

[4] It is important to note what our VC data does and does NOT contain. We know how much, from whom, on what date and what stage – seed, Series, round etc. It is not a matter of public record and we do NOT know on any systematic basis the pre paid for that investment – the percentage ownership,

Labor Markets has undergone a major shift. Who the technically trained now work for in this country has changed radically.

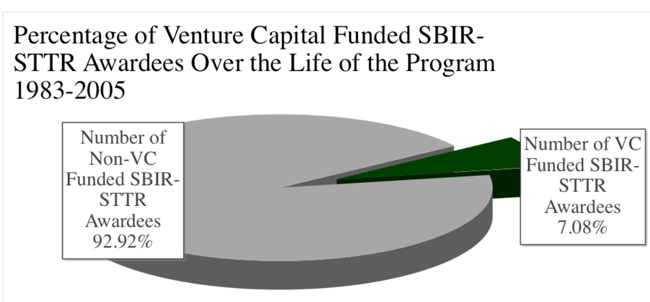
Our compiled SBIR employment and biography data suggests that some **400,000 graduate engineers and scientists** now work for SBIR-involved firms. Using NSF's data on university employment as the comparative index, that means that the number of SBIR-STTR employed scientists and engineers today factors to almost three times as many as all those in US academic institutions. In other words, the SBIR community now the **largest single concentration of technical talent** in the United States. By itself, this is a quite remarkable and hugely important return on the SBIR investment that has been made. This is a concentration of talent that -- if we are as a nation to compete effectively in the global economy -- it is vital that we not only retain and but also enhance.

As evidence of that concentration of technology development capacity, SBIR companies are now issuing patents at a rate comparable to the most prolific of the major corporations - one patent approximately every three to four hours - for a total now in excess of 47,000. That rate far exceeds that of academic institutions, and SBIR firms also are achieving a rate of patent citation – often used as an indicator of patent importance - that is substantial.

## Realizing that value:

Critical to this current debate is to understand that *to realize the value of that created asset base requires more than SBIR funding*. This program is designed to support the high risk, early stage research and development of creative new ideas. The all-important transition of those ideas which show promise to some appropriate type of use-condition – completion, if you like, of the innovation process - requires a *different set of resources* and, it should be added, often also demands a *very different set of skills*[5].

For that subset of SBIR-STTR Awardees addressing potentially large markets and offering the likelihood of some form of liquidity event (i.e. an IPO or acquisition), among those "other resources" is frequently **Venture Capital**.

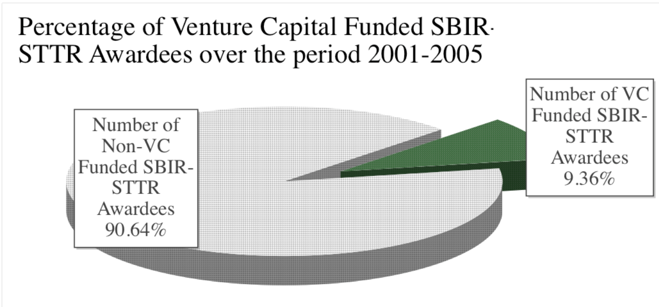



**1083 VC Funded SBIR-STTR Awardees**: The number of SBIR firms to have been in receipt of venture funding has now reached 1083: That represents

- **7.08**% of <u>all</u> SBIR funded companies over the life of the program.

[5] Not central to this discussion but critical to the continued effective functioning of the SBIR program is how we deal with the fact that a major percentage of those firms doing what would seriously be considered leading-edge work – about 4800-5000 of them over the life of the program; about 2500-2800 currently – lack the requisite skills and access to the resources which are needed to bring their technologies to use-condition.

Facilitating that access is probably not the answer. The problem is more structural. SBIR awardees are component, not full-systems builders. The market – public and private – demand whole product. To require our guys to assemble all those other elements to meet the demands of the market is an unrealistic and inappropriate use of their capabilities. The real SBIR challenge, in my judgment, is not the current VC eligibility debate, but rather how effectively to draw down on the wealth of what has been created.




- Among those more recently SBIR-involved – 2001-2005 – that percentage[6] of firms that are VC funded has actually increased to **9.36**%.

Factoring only to firms doing leading-edge work - some 4800-5000 overall (about 2500-2800 currently) - that percentage is even higher: perhaps as much as 15-20%.

Over the life of the program, SBIR has proven a valuable and important resource both

- to many of the firms funded by the venture capital community
- and, critically, to many of the VCs who have made those investments.

## **Not a recent phenomenon**:

Though I suspect not intentionally, discussion around the eligibility issue has largely proceeded as if VC SBIR involvement is a new trend: that fall-out from dot.coms, post-2001 market conditions having shut off liquidity events and reduced (and still reducing) achieved ROIs on their portfolios has caused these VC funds to look elsewhere to leverage on their available dollars. I would suggest this misperception has actually served to skew the discussion. In fact, VC involvement in SBIR is

- neither a recent condition,
- nor is it limited to any one agency.

As part of the analysis for this hearing, we backtracked the awards record of every SBIR VC funded awardee by year and agency. The Chart and Table below shows clearly that *VC funded firms have been an important percentage of SBIR activity from the onset of the program.* Beginning less than a year or so into program activity, the pattern of participation has been consistent. In the aggregate across the agencies, 10-12 percent of awards made have involved firms also been in receipt of venture capital at some stage in their business development.

Perhaps significantly in the context of recent events, by far the largest percentage all of SBIR dollars taken by VC-funded companies has been in the National Institutes of Health. By the late '80s, the number of awards made to firms in NIH which either already were, or subsequently became, VC supported entities had settled around the range of 20-25 percent of all their awards.

Though somewhat lower in totals, NSF has similarly consistently made a substantial percentage of awards to venture capital funded firms. In fact some important level of SBIR VC funding activity can be found in every one of the participating SBIR agencies, even the very smallest.

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[6] As an important and useful indicator of the extent of VC previous and current interest in SBIR, it is worth noting that these **percentages are far larger** than in any random group of small technology-based firms. There is substantial evidence from the work of others as well as our own to suggest that SBIR participation significantly increases the likelihood that the small firm which presents the appropriate VC required profile (large market and the prospect of a liquidity event) will attract that often important support. Though I cannot document the fact with certainty at this point, that seems to be even more the case for those firms located in States which are less well VC endowed.

# Percentage of SBIR-STTR Awards to VC Funded Firms

*by Agency and Year 1983-2004*

| | DOD | | | NIH | | | NASA | | | DOE | | | NSF | | | Smaller to include DHS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Awards to VC Funded Firms | Total Awards | *% SBIR dollars to VC funded firms* | Awards to VC Funded Firms | Total Awards | *% SBIR dollars to VC funded firms* | Awards to VC Funded Firms | Total Awards | *% SBIR dollars to VC funded firms* | Awards to VC Funded Firms | Total Awards | *% SBIR dollars to VC funded firms* | Awards to VC Funded Firms | Total Awards | *% SBIR dollars to VC funded firms* | Awards to VC Funded Firms | Total Awards | *% SBIR dollars to VC funded firms* |
| 1983 | 14 | 288 | *4.86%* | 15 | 144 | *10.42%* | 9 | 105 | *8.57%* | 6 | 106 | *5.66%* | 9 | 103 | *8.74%* | 1 | 52 | *1.92%* |
| 1984 | 29 | 372 | *7.80%* | 23 | 232 | *9.91%* | 9 | 125 | *7.20%* | 9 | 102 | *8.82%* | 8 | 107 | *7.48%* | 4 | 74 | *5.41%* |
| 1985 | 43 | 555 | *7.75%* | 80 | 433 | *18.48%* | 12 | 150 | *8.00%* | 12 | 109 | *11.01%* | 14 | 125 | *11.20%* | 3 | 103 | *2.91%* |
| 1986 | 70 | 1022 | *6.85%* | 75 | 425 | *17.65%* | 15 | 168 | *8.93%* | 9 | 101 | *8.91%* | 16 | 152 | *10.53%* | 4 | 117 | *3.42%* |
| 1987 | 113 | 1265 | *8.93%* | 58 | 365 | *15.89%* | 19 | 207 | *9.18%* | 12 | 113 | *10.62%* | 24 | 156 | *15.38%* | 5 | 125 | *4.00%* |
| 1988 | 111 | 1086 | *10.22%* | 55 | 338 | *16.27%* | 27 | 228 | *11.84%* | 10 | 134 | *7.46%* | 29 | 183 | *15.85%* | 4 | 113 | *3.54%* |
| 1989 | 122 | 1078 | *11.32%* | 83 | 445 | *18.65%* | 29 | 257 | *11.28%* | 17 | 157 | *10.83%* | 30 | 168 | *17.86%* | 4 | 116 | *3.45%* |
| 1990 | 125 | 1365 | *9.16%* | 96 | 459 | *20.92%* | 26 | 290 | *8.97%* | 12 | 169 | *7.10%* | 30 | 195 | *15.38%* | 8 | 134 | *5.97%* |
| 1991 | 138 | 1347 | *10.24%* | 109 | 516 | *21.12%* | 37 | 302 | *12.25%* | 16 | 172 | *9.30%* | 30 | 215 | *13.95%* | 3 | 150 | *2.00%* |
| 1992 | 126 | 1101 | *11.44%* | 108 | 578 | *18.69%* | 45 | 349 | *12.89%* | 13 | 198 | *6.57%* | 34 | 263 | *12.93%* | 11 | 174 | *6.32%* |
| 1993 | 142 | 1283 | *11.07%* | 112 | 644 | *17.39%* | 34 | 378 | *8.99%* | 17 | 168 | *10.12%* | 45 | 318 | *14.15%* | 9 | 183 | *4.92%* |
| 1994 | 164 | 1397 | *11.74%* | 142 | 660 | *21.52%* | 40 | 438 | *9.13%* | 29 | 269 | *10.78%* | 35 | 301 | *11.63%* | 9 | 197 | *4.57%* |
| 1995 | 158 | 1390 | *11.37%* | 170 | 725 | *23.45%* | 40 | 333 | *12.01%* | 25 | 221 | *11.31%* | 51 | 300 | *17.00%* | 12 | 249 | *4.82%* |
| 1996 | 136 | 1364 | *9.97%* | 150 | 651 | *23.04%* | 32 | 388 | *8.25%* | 23 | 192 | *11.98%* | 30 | 267 | *11.24%* | 8 | 175 | *4.57%* |
| 1997 | 173 | 1495 | *11.57%* | 194 | 868 | *22.35%* | 34 | 385 | *8.83%* | 30 | 216 | *13.89%* | 28 | 231 | *12.12%* | 15 | 251 | *5.98%* |
| 1998 | 133 | 1487 | *8.94%* | 163 | 829 | *19.66%* | 26 | 344 | *7.56%* | 18 | 217 | *8.29%* | 31 | 249 | *12.45%* | 20 | 206 | *9.71%* |
| 1999 | 132 | 1449 | *9.11%* | 199 | 952 | *20.90%* | 18 | 308 | *5.84%* | 25 | 222 | *11.26%* | 26 | 264 | *9.85%* | 21 | 227 | *9.25%* |
| 2000 | 108 | 1365 | *7.91%* | 267 | 1129 | *23.65%* | 18 | 300 | *6.00%* | 14 | 221 | *6.33%* | 12 | 131 | *9.16%* | 23 | 249 | *9.24%* |
| 2001 | 110 | 1619 | *6.79%* | 177 | 988 | *17.91%* | 24 | 328 | *7.32%* | 18 | 235 | *7.66%* | 26 | 220 | *11.82%* | 13 | 212 | *6.13%* |
| 2002 | 165 | 2274 | *7.26%* | 203 | 1029 | *19.73%* | 21 | 296 | *7.09%* | 18 | 247 | *7.29%* | 38 | 328 | *11.59%* | 12 | 245 | *4.90%* |
| 2003 | 174 | 2049 | *8.49%* | 265 | 1157 | *22.90%* | 26 | 354 | *7.34%* | 17 | 236 | *7.20%* | 52 | 414 | *12.56%* | 11 | 169 | *6.51%* |
| 2004 | 182 | 2569 | *7.08%* | 244 | 1286 | *18.97%* | 14 | 327 | *4.28%* | 13 | 309 | *4.21%* | 16 | 165 | *9.70%* | 28 | 230 | *12.17%* |
| Totals | 2668 | 29220 | *9.13%* | 2988 | 14853 | *20.12%* | 555 | 6360 | *8.73%* | 363 | 4114 | *8.82%* | 614 | 4855 | *12.65%* | 228 | 3751 | *6.08%* |



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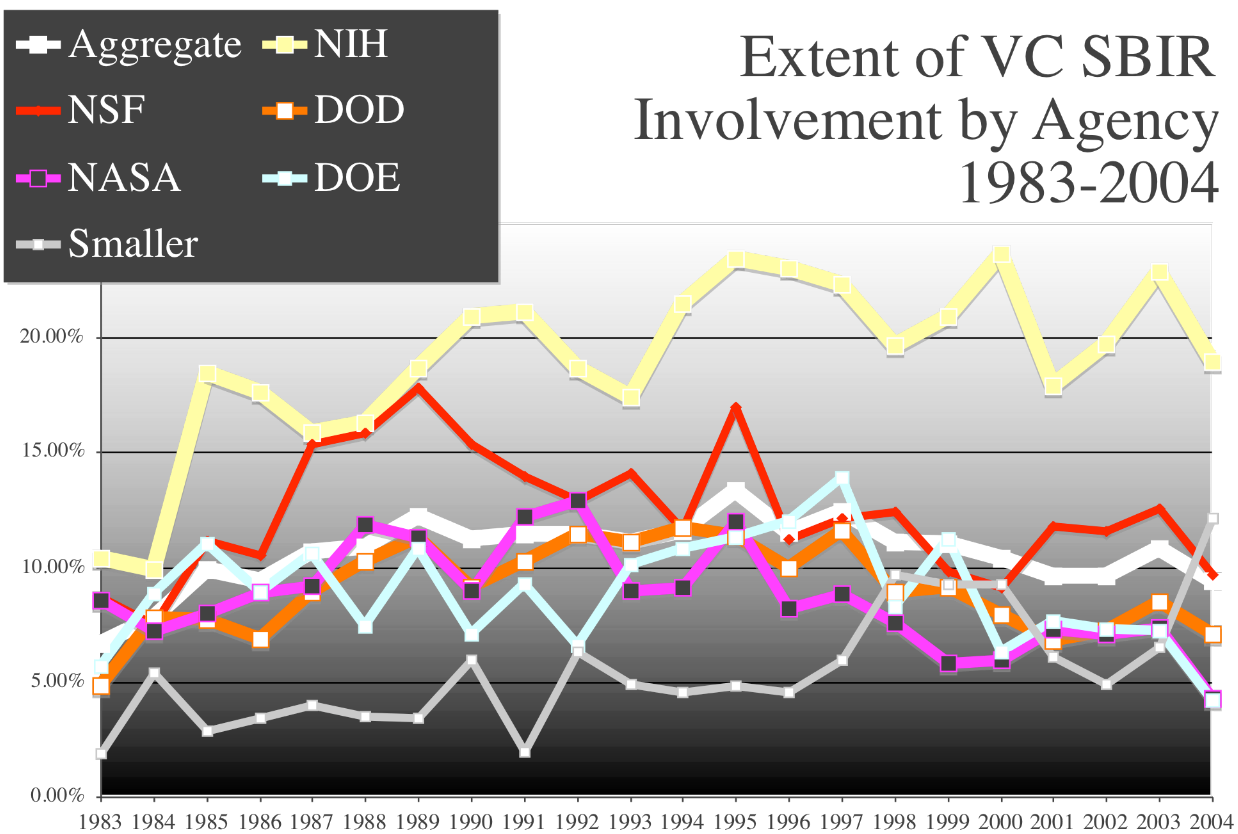


| When are VC-Funded Firms becoming SBIR involved? | | |
|---|---|---|
| | Entire program | Currently involved |
| Open doors | 26.05% | 11.09% |
| Within One Year of founding | 16.16% | 18.18% |
| Within TWO years of founding | 15.18% | 17.27% |
| | 57.39% | 46.55% |
| Within THREE years | 9.70% | 12.91% |
| Established firms | 32.91% | 40.55% |

## Value of SBIR to VC-eligible firms:

Effective use of SBIR may often permit a small firm to hold off on the time at which they need to raise external dollars and/or to reduce proportionately the amount they need initially to raise. Note that though use of SBIR award dollars to open the doors has dropped significantly in the period 2001-2005 (from 26.05% to 11.09%), the percentage of those taking their first award(s) in the next one-two year period has increased. Examination of a cross-section of the start-up records of these firms suggests that SBIR award dollars are being used to bring onto the professional staff[7] people whom they probably could not otherwise afford – part of that start-up making the transition towards being a viable business and a hugely important pre-VC, risk-reduction process.

Rarely, if ever, are VC firms in the picture at that time.

Particularly for Awardees in states which are reasonably well VC-endowed[8], being effectively SBIR-involved seems to serve quite well to lower the high-risk profile that the small firm presents and, therefore, proportionately may actually reduce the price they have to 'pay' for that money i.e. they must give up less of the firm.

## Value of SBIR to the VC:

Analysis of our data suggests that the **type of SBIR value** that is of high-interest and importance to the VC Community is almost certainly *NOT* that which many who are opposed to any form of eligibility rule-change for majority VC-owned, SBIR-involved firms assume it to be. Most of that oppositional discussion seems to have organized around one or more of several basic points:

- That VCs want access to the funding dollars that SBIR provides as a useful supplement to/substitution for their own investment.
- That VC funded firms are effectively 'siphoning off' of these dollars when they already have so much more money available to them, this argument continues, is an inappropriate use of SBIR support.
- A widely-held view (probably not valid) is that the fact that VC supported firms are already well-funded gives them competitive advantage in the awards process.
- That the SBIR-involvement of VC funded firms is tilting the program unfavorably towards the better endowed, limiting the access of more deserving, earlier stage firms

In fact, the data shows clearly these assumptions are fundamentally in error. See Table below

[7] Development of the original SBIR regulations were specifically crafted to support this condition. At the time of applications, whom a potential PI works for is not an issue. The commitment must be that at the time of award, that PI must join the recipient small firms for more than 5% of their time.

[8] For SBIR-involved firms in less well VC endowed states, this risk reducing, better price factor seems to be far less evident. The relative lack of options (competition) for the deals puts growth oriented firms in these states at an immediate disadvantage. Just as – perhaps even more important – is the serious shortage in those states of professional service providers with the requisite skills and direct experience to negotiate to an appropriate price.

| Extent of SBIR Awards Activity and Funding Among VC and Non-VC Funded Firms | | | | |
|---|---|---|---|---|
| | Number of Firms | Total Awards | Average number of awards | Total SBIR Dollars Received (Phase I & Phase II) Note 1 |
| 1983-2000 | | | | |
| Non-VC Funded | 13,773 | 52,774 | *3.83* | $12,918,015,890 |
| VC Funded | 1,049 | 7,031 | *6.70* | $1,876,845,827 |
| 2001-2005 | | | | |
| Non-VC Funded | 5,877 | 17,794 | *3.03* | $5,479,845,658 |
| VC Funded (Notes 2 & 3) | 607 | 2,176 | *3.58* | $767,045,941 |

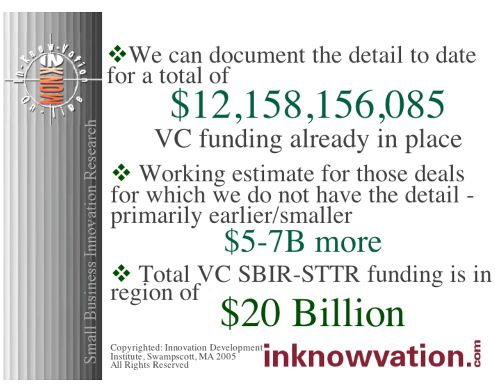
Note 1: Particularly in NIH, Phase II dollars are awarded in several increments over a number of years. In our databases we track that process by making a separate entry for each award segment and then aggregating that data in the company record. When we cull out certain years for analysis, as in this instance, this process may result in a some double-counting of the dollars on projects which straddle the split years. This time the overcount amount in question is about $200M.

Note 2: It is important to note that the data indicates that 573 of the 607 VC Funded SBIR firms currently active in the program pre-date the 2001-2005 period broken out here. Some having been involved for many years both before they received VC funding and after.

Note 3: A total of only additonal 34 VC-funded firms have become awardees during the recent period 2001-2005. This number is much smaller than would have been expected.

- The extent of SBIR dollars taken by VC-funded firms individually[9] is significantly *less* than I think most people are assuming. Collectively totaling 'only' about $2.6B over the life of the program this amount is substantial, but entirely proportional to the number of firms involved.

- A common assumption made by opponents to the pressure to achieve special treatment of VC funded firms is that the **numbers of awards and dollars taken by VC funded firms** having ramped up since the Stock Market downturns of 2001 onwards. In fact, the number of awards per VC funded firm has **actually gone down**[10] .




The SBIR awards rate to VC-funded firms is now only slightly higher than to non-VC funded. Over the earlier period of SBIR activity – 1983-2000 – the average awards totals achieved by VC funded firms was significantly higher to than to non-VC funded: 6.70% versus 3.83%. It now stands at 3.58% per to 3.03% to the non-VC funded.

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[9] Separate, but connected to this VC issue, is that relating to the number of very large SBIR Phase I (and Phase II) awards which have been made, especially in the National Institutes of Health. Of the 12 Phase I awards made in a dollar amount of $750K or more (three at over $1M), not one involved a VC funded firm.

[10] The suggestion that proponents for size-eligibility rule change will almost certainly make here that this drop-off is because VC funded firms are no longer applying for SBIR award and/or are being rejected as ineligible actually does not fit the facts. This reduction in per-award participation actually pre-dates by at least a couple of years the current controversy.

We know who got VC funding and can document the detail of how much VC has been invested in SBIR-involved firms to date to a total of slightly over $12B. Investment made in the years prior to 1998 are less complete in their detail in our databases but we estimate these factor to about another $5-7B. That suggests a total VC investment in SBIR involved firms to date of about $20B.

The collective VC SBIR Awardees investment currently stands at almost

$20 Billion

Total SBIR Award dollars received calculates to some

$2.5 Billion

close to a 10:1 *negative* ratio

❖ By far the most telling point made by analysis of the VC SBIR track record, however, is that the amount of VC investment made in SBIR-involved firms far and away exceeds anything that they are receiving from SBIR awards as such – see chart to left.

*For every ONE Dollar received by the VC funded firm in SBIR Awards, TEN investment dollars have been recorded.*

This **negative-ratio finding of SBIR to Investment dollars** was a surprise to us initially and, I suspect, will be an entirely unexpected finding to just about everyone who has been part of this two-year controversy on either side or -- as many Members of Congress and their staffs have been – who have been caught in the middle.

In fact, given this highly unexpected finding, the very obvious question which must addressed in he context of this overall discussion becomes:

Why has so much effort and resources been allocated to the task of trying to achieve a major size-eligibility rule change that is opposed by so many program advocates – myself included?

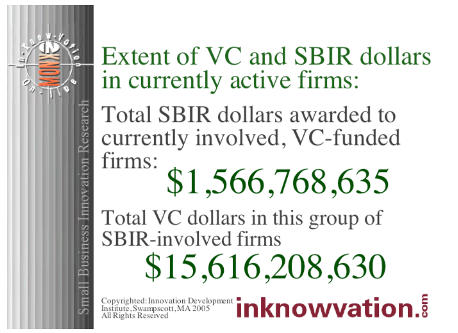
If the amount that VC funded firms are getting from their SBIR participation is proportionately so small, one might well ask -- why haven't/don't the VC's simply put in a few extra dollars into the SBIR-STTR firms in their portfolio and just avoid all this current hassle?

The fact that they have not done that, in my judgment,
is the true essence of this issue and
should significantly *shift the focus of discussion.*

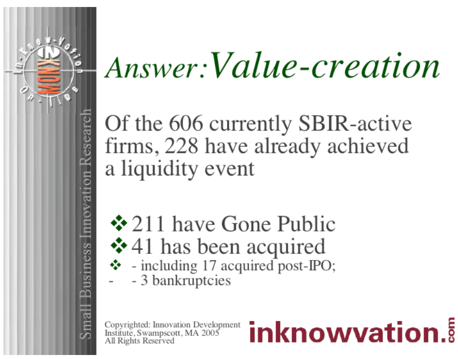
In effect, to find resolution to the current impasse demands that we understand **<u>why</u>** SBIR-STTR has been, and continues to be, valuable to the VC community.

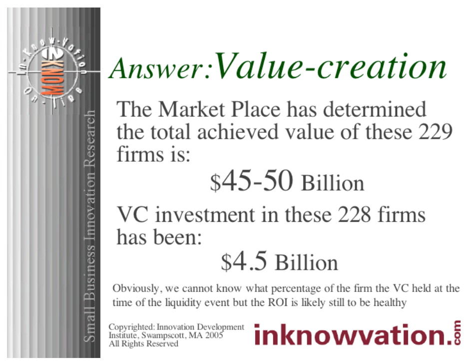
A useful way here to find probable answer to this important question can be demonstrated by our walking through the set of Powerpoint slides provided below.

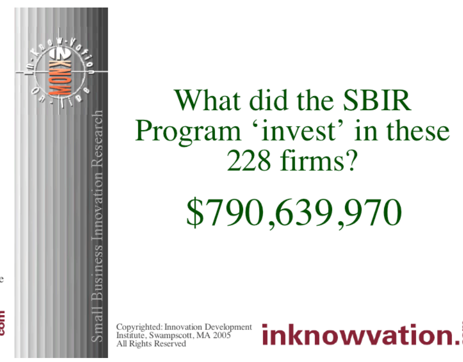
This set of slides examines in some detail those 607 VC funded firms which have been SBIR program involved since early in 2001; and the achieved liquidity event of 228 of those firms.






## SBIR is about value/wealth creation:

In effect, what this analysis shows **is at the very core of why SBIR overall is such a powerful and important program** not only specifically for those who invest in SBIR-involved firms, but for the economy overall. *Effective SBIR participation is fundamentally about value-creation.*

*An interesting side comment to this point which underscores important shifts in how technology value is being drawn down:*

- Over the life of the program up to mid-May 2005, **619 SBIR awardees** have been involved in **M&A transactions**,
- Of these only 154 have involved VC funded firms.
- All the rest have been acquired by or merged with firms (other SBIR awardees as well as larger firms) primarily because the SBIR Awardee had created something of value to that other entity.

The average price paid in those deals is dropping from the monopoly money days of the late 1990's/early 2000 but is still over $400M. The medium price on SBIR M&A deals is at $60-70M.

A fundamental premise of the VC endeavor is that a quality investment with significant potential return is one in which an earlier injection of the right sort of cash will have a multiplier effect. In this instance, for many VC funds, SBIR is that 'right sort of cash'. With *no dilution in investor's ownership* in the firm, SBIR supports can serve well

- at least at some level to validate the overall competency of the potential investee
- certainly to mitigate/reduce the technology risk in the project and, with a whole lot of other things also
- then potentially to increase significantly the value of that entity.

To an important extent, this condition of **value creation is a characteristic of all those firms in SBIR which we judge to be doing leading edge work**. The option available to firms which present the appropriate VC profile (high growth and liquidity event) – *and that is largely missing for the more general SBIR Awardees* - is a way of being able to draw down on that created value – an IPO or MA& event.

The hugely important challenge that this achievement creates for
the next generation of SBIR discussion, in my judgment is,
how must the program be tweaked and/or supplemented
to support the draw-down of a greater percentage of that value.

This is not, I would strongly suggest, a task that should be left, as it is now, almost entirely to the initiative of individual awardees. It is just too important.

To their credit (and their achieved benefit), many in the VC community I would argue, have early recognized this value-added condition of SBIR. By being so extensively involved in SBIR from the beginning, these *VC's have been doing their job* – to provide a quality return on funds raised from the own investors.

The challenge presented by the current debate is to consider the extent to which **we permit use of SBIR support to increase the potential for that financial return to those investors?**

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It has taken me a long time – both here and in analysis of these data over these many months - to get to the point where I think we can demonstrate how to

- move away from the largely corrosive discussion of how to provide/prevent an across-the-board eligibility rule-change that would treat all VC-funded SBIR-involved firms as a single group - *clearly a completely unacceptable condition*
- and proceed instead to a discussion which considers the two critical issues which are at the heart of this issue:

- Valuation and
- Graduation

The essence of my contribution to this debate is that - in my judgment

- it is entirely inappropriate that we permit the present discussion to continue as if all VC-funded SBIR firms are at the same stage of development and should be treated such that the same rules apply to all. To open the door to the potential of ever-lasting SBIR participation regardless of the state and stage of the firm involved is not acceptable.

❖ Just as unacceptable, however, is the notion that we should in any way impede the full and effective SBIR participation by those VC funded firms which, by any other criteria, would more commonly be judged 'small business'

*These two findings are neither contradictory nor mutually exclusive.*

To operationalize these findings, I would suggest, will require the institution of

1. Some mechanism which would enable a level of *segmentation of the VC-funded SBIR-involved firms.*

    a. The obviously ineligible are fairly evident – actually quite a small number.
    b. Just as evident are the firms which are clearly <u>not</u> (yet) in that ineligible pool.

    The challenge is to craft the rules to handle that two-three dozen firms which fall in the mid-range.

2. A set of rules appropriate to *define SBIR graduation.* This is a concept which has already been broached but more usually with reference to the so-called "proposal mills[11]"

Overall, it would be my assertion that this mechanism of differentiation probably should not be so much by age and size of the firm as by stage of development of the project. In effect, let us consider allowing use of SBIR to sweeten the deal – allowing qualified firms to undertake higher-risk, earlier-stage work which might well not otherwise get done. This is a classic role assumed through the years by the federal government. Later stage, pre-market development work is more appropriately funded by private sources.

## Some final general observations:

❖ **Venture capital:**

There are few who would argue the **critical importance of venture capital** to the effective development of a technology, innovation-based economy. The fact that almost every other industrialized and industrializing economy seeks to emulate the U.S. VC model (and the SBIR program) speaks to that fact. However, U.S. venture capital today is quite distinctly different from the industry in its early days, and has changed in many important ways even since the mid to late '90s. Those changes[12] manifest in how, from whom - and how much - VC funds are raised; what type of investments are being made and at what stage of development; at what dollar levels; how return on investment is realized; and with what achieved ROI.

In effect, it is my considered opinion that it is critically important that that percentage of **SBIR involved firms who are addressing substantial markets and growth opportunities as their**

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[11] Based my considerable SBIR experience through the years, I would suggest that this perennial accusation is pure myth and fiction, entirely without basis in fact and should be finally eliminated from any serious SBIR discussion.
[12] Though not directly the subject of today's hearing, it could be argued that modern VC has many of the characteristics of a maturing industry with all of the implications of that condition.

**firm develops should not be excluded from SBIR participation**. This population currently represent something in excess of nine percent of all currently active, SBIR-involved firms; a significantly larger percentage of that population of companies which our analysis suggests are doing leading-edge work.

To disallow the participation of these firms at the appropriate point in their development could seriously weaken the overall viability and effectiveness of the SBIR program as a business and economic development resource. Growth-oriented, small firms requires substantial access to capital far in excess of any that could be - and has been - provided by the SBIR program and, critically, is of a quite different type. The adverse consequences of putting any serious impediment in the way of their access to this type of capital could have major economic-impact repercussions

- **Current SBIR eligibility rules may need a tweak but wholesale redefinition of those rules in not necessary. It ain't broke; we don't need to fix it** :

As a longtime SBIR advocate, it has been my considered opinion throughout the life of the program that the rules pertaining to SBIR participation and eligibility *should not be changed to accommodate to the special needs of any sub-set of otherwise SBIR-qualified small firms*. This would include any special dispensation for geographic distribution, particular industry segment and, in this case, firms in receipt of external equity investment.

A basic premise from which SBIR has proceeded from the outset has been that the only criteria by which selection for award should be judged are the competency of the firm involved and the technical validity of the project submitted. This fundamental premise has maintained the integrity of the SBIR program over now twenty-two years.

It would be my judgment that to set aside size eligibility requirements, particularly when the reasons for that need are *entirely external to the SBIR program*, is a dangerous precedent to set. If a special dispensation for majority-owned VC funded firms is permitted, who will be the next group for whom exception must be made?

| Present Condition of VC Funded SBIR-Involved Firms | | |
|---|---|---|
| | 1983-2000 | 2001-2005 |
| Still in Business and employing fewer than 500 people i.e. would ordinarily be considered **SBIR eligible** | 198 | 547 |
| Acquired/Merged/Divested | 217 | 53 |
| Bankrupt/Out of Business | 12 | 4 |
| Not small | 49 | 3 |

## Required Financial disclosure:

To whom it may concern:
Neither the development of the databases which underpin this discussion nor the operations of the Innovation Development Institute are, or have in any manner, been supported by federal funding nor by external contributions from any source.